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ABSTRACT

A novel media access control (MAC) mechanism ~~that utilizes~~ utilizing synchronization signaling. ~~The invention that~~ enables nodes from different networks having different technologies and protocols to coexistence using the same shared media. The present invention is suitable for use with a wide range of different types of network and technologies and is particularly useful in providing coexistence capabilities to powerline based data communication systems. Specific time slots are assigned for the transmission of a frame occupation signal to indicate to all nodes that the channel is occupied. A synchronization signal is ~~also~~ randomly transmitted ~~in random fashion~~ during a preassigned time slot ~~during~~ within the frame so as to provide accurate timing for the frame occupation signal. During times that a node does not transmit the synchronization signal, it listens to the channel. A timing signal is derived from the synchronization signals received from other nodes during this quiet period wherein the node is in a listening mode. The node then adjusts its internal clock in accordance with the derived timing signal.

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